

PRCCF 1.5

EPA Region 10
Deemed Releasable

MEMORANDUM

DCN: TZ4-C10021-EP-12734

DATE: January 14, 1993

TO: Dave Bennett

FROM: Lynn Guilford *LG*SUBJECT: HRS for Precision Castparts Corporation in Portland, Oregon
EPA No. 68-W9-0008, SAIC/TSC Project No. 6-788-03-1400-590**CONFIDENTIAL****RECEIVED**

JAN 15 1993

SUPERFUND REMEDIAL BRANCH

Precision Castparts produces titanium and steel parts for applications which include aircraft engines and medical equipment. Most of the wastes generated onsite are not hazardous wastes. However, there are a number of solvents used to clean parts and molds. These solvents, along with spilled materials, were used to score the site. An observed release to ground water could not be fully documented. However, there is contamination from an unknown source in onsite wells indicating that Precision Castparts may be impacting the ground water.

A preliminary Hazardous Ranking Score (HRS) of 11.02 was initially calculated. The score was increased to 32.29 by adding PCBs as a compound associated with the onsite drums. Both scores were calculated using the following information:

- The ground water migration pathway was scored assuming an observed release of tetrachloroethylene and trichloroethylene. It was also assumed that the aquifers in the area were connected.
- The surface water pathway was score based on an observed release to Johnson Creek. There have been numerous spills that have been documented to have impacted the creek. The fish population in the creek has been impacted by the industries in the area including Precision Castparts.
- The soils pathway was scored based on onsite workers.
- The air pathway was scored based on the potential for gas migration.

A disk containing a copy of the PRESCORE file and the score sheets for the ground water and surface water pathways are included. Please feel free to call Kathryn Gladden or myself at (206) 485-2818 if you have any questions or comments regarding this memorandum.

Enclosure

cc: D. Robinson, EPA
K. Gladden, SAIC/TSC
L. Guilford, SAIC/TSC

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MEMORANDUM

DCN: TZ4-C10021-EP-12412

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DEC 03 1992

SUPERFUND REMEDIAL BRANCH

DATE: December 1, 1992

TO: Dave Bennett

FROM: Lynn Guilford *LG*

SUBJECT: HRS for Precision Castparts Corporation in Portland, Oregon
EPA No. 68-W9-0008, SAIC/TSC Project No. 6-788-03-1400-590

Precision Castparts produces titanium and steel parts for applications which include aircraft engines and medical equipment. Most of the wastes generated onsite are not hazardous wastes. However, there are a number of solvents used to clean parts and molds. These solvents, along with spilled materials, were used to score the site. An observed release to ground water could not be fully documented. However, there is contamination from an unknown source in onsite wells indicating that Precision Castparts may be impacting the ground water.

A preliminary Hazardous Ranking Score (HRS) of 11.02 was calculated using the following information:

- The ground water migration pathway was scored assuming an observed release of tetrachloroethylene and trichloroethylene. It was also assumed that the aquifers in the area were connected.
- The surface water pathway was score based on an observed release to Johnson Creek. There have been numerous spills that have been documented to have impacted the creek. The fish population in the creek has been impacted by the industries in the area including Precision Castparts.
- The soils pathway was scored based on onsite workers.
- The air pathway was scored based on the potential for gas migration.

A disk containing a copy of the PRESCORE file and the score sheets for the ground water and surface water pathways are included. Please feel free to call Kathryn Gladden or myself at (206) 485-2818 if you have any questions or comments regarding this memorandum.

Enclosure

cc: D. Robinson, EPA
K. Gladden, SAIC/TSC
L. Guilford, SAIC/TSC

PREscore 1.0 - PRESCORE.TCL File 12/23/91
HRS DOCUMENTATION RECORD
Precision Castparts Corporation - 11/06/92

PAGE: 1

1. Site Name: Precision Castparts Corporation
(as entered in CERCLIS)
2. Site CERCLIS Number: ORD981769342
3. Site Reviewer: Lynn Guilford
4. Date: November 1992
5. Site Location: Portland, Oregon
(City/County,State)
6. Congressional District:
7. Site Coordinates: Single

Latitude: 42 28'00.

Longitude: 122 36'30.

	Score
Ground Water Migration Pathway Score (Sgw)	14.04
Surface Water Migration Pathway Score (Ssw)	16.84
Soil Exposure Pathway Score (Ss)	1.80
Air Migration Pathway Score (Sa)	1.27
Site Score	11.02

NOTE

EPA uses the terms "facility," "site," and "release" interchangeably. The term "facility" is broadly defined in CERCLA to include any area where hazardous substances have "come to be located" (CERCLA Section 109(9)), and the listing process is not intended to define or reflect boundaries of such facilities or releases. Site names, and references to specific parcels or properties, are provided for general identification purposes only. Knowledge regarding the extent of sites will be refined as more information is developed during the RI/FS and even during implementation of the remedy.

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Drums

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID	Drums
b. Source Type	Drums
c. Secondary Source Type	N.A.
d. Source Volume (yd3) Source Area (ft2)	858.00 0.00
e. Source Volume/Area Value	1.72E+00
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)	0.00E+00
g. Data Complete?	NO
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)	0.00E+00
i. Data Complete?	NO
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)	1.72E+00

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Acetone	< 2	YES	0.0E+00	ppm
Tetrachloroethene	< 2	YES	0.0E+00	ppm
Trichloro-1,2,2-Trifluoroethan	< 2	YES	0.0E+00	ppm
Trichloroethylene	< 2	YES	0.0E+00	ppm

Documentation for Source Type:

Reference: 1

Documentation for Source Hazardous Substances:

Reference: 1

Documentation for Source Volume:

This is based on the quantity of tetrachloroethylene, freon-113, acetone, and trichloroethylene generated in one year.

Reference: 1

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Spills

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID	Spills
b. Source Type	Other
c. Secondary Source Type	N.A.
d. Source Volume (yd3) Source Area (ft2)	3.00 0.00
e. Source Volume/Area Value	1.20E+00
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)	0.00E+00
g. Data Complete?	NO
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)	0.00E+00
i. Data Complete?	NO
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)	1.20E+00

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Chromium	< 2	YES	1.0E-02	ppm
Ethylene glycol	< 2	YES	2.0E+04	ppm
Tetrachloroethene	< 2	YES	1.5E-02	ppm
Trichloroethylene	< 2	YES	2.0E-03	ppm

Documentation for Source Type:

The spills from the facility are grouped into this one source.

Reference: 1

Documentation for Source Hazardous Substances:

The trichloroethylene, tetrachloroethylene, and chromium were detected in the storm water outfalls and may not be attributable to spills. The 20% ethylene glycol was spilled.

Reference: 1

Documentation for Source Volume:

The spills are as follows:

20 gallons chem mill NaOH
200 gallons NaOH Titanium Bldg. loading dock
320 gallons waste water 3 occasions
50 gallons 20% ethylene glycol

Reference: 1

3. SITE HAZARDOUS WASTE QUANTITY SUMMARY

No. Source ID	Migration Pathways	Vol. or Area Value (2e)	Constituent or Wastestream Value (2f,2h)	Hazardous Waste Qty. Value (2k)
1 Drums	GW-SW-SE-A	1.72E+00	0.00E+00	1.72E+00
2 Spills	GW-SW-SE-A	1.20E+00	0.00E+00	1.20E+00

4. PATHWAY HAZARDOUS WASTE QUANTITY AND WASTE CHARACTERISTICS SUMMARY TABLE

Migration Pathway	Contaminant Values	HWQVs*	WCVs**
Ground Water	Toxicity/Mobility 1.00E+02	10	6
SW: Overland Flow, DW	Tox./Persistence 1.00E+04	10	18
SW: Overland Flow, HFC	Tox./Persis./Bioacc. 5.00E+04	10	18
SW: Overland Flow, Env	Etox./Persis./Bioacc. 5.00E+04	100	32
SW: GW to SW, DW	Tox./Persistence 1.00E+02	10	6
SW: GW to SW, HFC	Tox./Persis./Bioacc. 2.00E+03	10	10
SW: GW to SW, Env	Etox./Persis./Bioacc. 2.00E+03	100	18
Soil Exposure:Resident	Toxicity 1.00E+04	10	18
Soil Exposure: Nearby	Toxicity 1.00E+04	10	18
Air	Toxicity/Mobility 1.00E+02	10	6

* Hazardous Waste Quantity Factor Values

** Waste Characteristics Factor Category Values

Note: SW = Surface Water
GW = Ground Water
DW = Drinking Water Threat
HFC = Human Food Chain Threat
Env = Environmental Threat

GROUND WATER MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer Aquifer: Troutdale		
1. Observed Release	550	550
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	6
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	460
3. Likelihood of Release	550	550
Waste Characteristics		
4. Toxicity/Mobility	*	1.00E+02
5. Hazardous Waste Quantity	*	10
6. Waste Characteristics	100	6
Targets		
7. Nearest Well	50	2.00E+01
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	3.31E+02
8d. Population (lines 8a+8b+8c)	**	3.31E+02
9. Resources	5	0.00E+00
10. Wellhead Protection Area	20	0.00E+00
11. Targets (lines 7+8d+9+10)	**	3.51E+02
12. Targets (including overlaying aquifers)	**	3.51E+02
13. Aquifer Score	100	14.04
GROUND WATER MIGRATION PATHWAY SCORE (Sgw)	100	14.04

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREscore 1.0 - PRESCORE.TCL File 12/23/91
GROUND WATER PATHWAY AQUIFER SUMMARY
Precision Castparts Corporation - 11/06/92

PAGE: 2

No. Aquifer ID	Type	Overlaying No.	Inter- Connected with	Likelihood of Release	Targets
1 Troutdale	Non K	0	0	550	3.51E+02

Containment

No.	Source ID	HWQ Value	Containment Value
1	Drums	1.72E+00	10
2	Spills	1.20E+00	10

=====
Containment Factor 10

Documentation for Ground Water Containment, Source Drums:

The drums stored onsite are located on asphalt without any diking.
All of the drums are grouped together for the purpose of
scoring.

Reference: 1

Documentation for Ground Water Containment, Source Spills:

There have been numerous spills that have been combined for the
purposes of scoring.

Reference: 1

Net Precipitation

Net Precipitation (inches) 23.50

Documentation for Net Precipitation:

Reference: 1

Aquifer: Troutdale

Type of Aquifer: Non Karst

Overlaying Aquifer: 0

Interconnected with: 0

Documentation for Troutdale Aquifer:

It is assumed the fluviolacustrine deposits are hydraulically connected to the Troutdale aquifer.

Reference: 1

OBSERVED RELEASE

No.	Well ID	Well Type	Distance (miles)	Level of Contamination		
1	Onsite wells	Monitoring Well	0.000	Level I		
Well						
No.	Hazardous Substance	Concent. MCL		Cancer	RFD	Units
1	Tetrachloroethene	1.2E+01	0.0E+00	6.9E-01	3.5E+02	ppb
1	Trichloroethylene	4.0E-01	5.0E+00	3.2E+00	0.0E+00	ppb
=====						
Observed Release Factor					550	

Documentation for Well Onsite wells:

The sample anaylisis are accurate. There is a study of the ground water in the area trying to attribute the contaimation to particular sites. This has not been completed and Precision has not been identified as a source but is likily to be contributing to the problem so an observed release to ground water was assumed.

Reference: 1

POTENTIAL TO RELEASE

Containment

Containment Factor 10

Net Precipitation

Net Precipitation Factor 6

Depth to Aquifer

A. Depth of Hazardous Substances 0.00 feet

B. Depth to Aquifer from Surface 0.00 feet

C. Depth to Aquifer (B - A) 0.00 feet

Depth to Aquifer Factor 5

Travel Time

Are All Layers Karst? NO

Thickness of Layer(s) with Lowest Conductivity 0.00 feet

Hydraulic Conductivity (cm/sec) 0.0E-00

Travel Time Factor 35

=====

Potential to Release Factor 460

PREscore 1.0 - PRESCORE.TCL File 12/23/91
GROUND WATER PATHWAY WASTE CHARACTERISTICS
Precision Castparts Corporation - 11/06/92

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Source: 1 Drums

Source Hazardous Waste Quantity Value: 1.72

Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
-----	-----	-----	-----
Acetone	10	1.00E+00	1.00E+01
Tetrachloroethene	100	1.00E-02	1.00E+00
Trichloro-1,2,2-Trifluoroethane, 1	1	1.00E-02	1.00E-02
Trichloroethylene	10	1.00E-02	1.00E-01

Source: 2 Spills

Source Hazardous Waste Quantity Value: 1.20

Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
-----	-----	-----	-----
Chromium	10000	1.00E-02	1.00E+02
Ethylene glycol	1	1.00E+00	1.00E+00
Tetrachloroethene	100	1.00E-02	1.00E+00
Trichloroethylene	10	1.00E-02	1.00E-01

PREscore 1.0 - PRESCORE.TCL File 12/23/91
GROUND WATER PATHWAY WASTE CHARACTERISTICS
Precision Castparts Corporation - 11/06/92

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Hazardous Substances Found in an Observed Release

Well No.	Observed Release Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
1	Tetrachloroethene	100	1.00E+00	1.00E+02
1	Trichloroethylene	10	1.00E+00	1.00E+01

Toxicity/Mobility Value from Source Hazardous Substances:	1.00E+02
Toxicity/Mobility Value from Observed Release Hazardous Substances:	0.00E+00
Toxicity/Mobility Factor:	1.00E+02
Sum of Source Hazardous Waste Quantity Values:	2.92E+00
Hazardous Waste Quantity Factor:	10
Waste Characteristics Factor Category:	6

PREscore 1.0 - PRESCORE.TCL File 12/23/91
GROUND WATER PATHWAY TARGETS FOR AQUIFER Troutdale
Precision Castparts Corporation - 11/06/92

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Population by Well

No.	Well ID	Sample Type	Distance (miles)	Level of Contamination Population

- N/A and/or data not specified				

Level I Population Factor: 0.00

Level II Population Factor: 0.00

Potential Contamination by Distance Category

Distance Category (miles)	Population	Value
> 0 to 1/4	2.0	4.00E-01
> 1/4 to 1/2	2.0	2.00E-01
> 1/2 to 1	8020.0	1.67E+02
> 1 to 2	5357.0	9.39E+01
> 2 to 3	5357.0	6.78E+01
> 3 to 4	115.0	1.30E+00

Potential Contamination Factor: 331.000

Documentation for Target Population > 0 to 1/4 mile Distance Category:

Reference: 1

Documentation for Target Population > 1/4 to 1/2 mile Distance Category:

Reference: 1

Documentation for Target Population > 1/2 to 1 mile Distance Category:

Reference: 1

Documentation for Target Population > 1 to 2 miles Distance Category:

Reference: 1

Documentation for Target Population > 2 to 3 miles Distance Category:

Reference: 1

Documentation for Target Population > 3 to 4 miles Distance Category:

Reference: 1

Nearest Well

Level of Contamination: Potential
Distance in miles: 0.10

Nearest Well Factor: 2.00E+01

Documentation for Nearest Well:

Reference: 1

Resources

Resource Use: NO

Resource Factor: 0.00E+00

Wellhead Protection Area

No wellhead protection area

Wellhead Protection Area Factor: 0.00E+00

PREscore 1.0 - PRESCORE.TCL File 12/23/91 PAGE: 1
 SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
 Precision Castparts Corporation - 11/06/92

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	550
2. Potential to Release by Overland Flow		
2a. Containment	10	10
2b. Runoff	25	0
2c. Distance to Surface Water	25	25
2d. Potential to Release by Overland Flow [lines 2a(2b+2c)]	500	250
3. Potential to Release by Flood		
3a. Containment (Flood)	10	0
3b. Flood Frequency	50	0
3c. Potential to Release by Flood (lines 3a x 3b)	500	0
4. Potential to Release (lines 2d+3c)	500	250
5. Likelihood of Release	550	550
Waste Characteristics		
6. Toxicity/Persistence	*	1.00E+04
7. Hazardous Waste Quantity	*	10
8. Waste Characteristics	100	18
Targets		
9. Nearest Intake	50	0.00E+00
10. Population		
10a. Level I Concentrations	**	0.00E+00
10b. Level II Concentrations	**	0.00E+00
10c. Potential Contamination	**	0.00E+00
10d. Population (lines 10a+10b+10c)	**	0.00E+00
11. Resources	5	5.00E+00
12. Targets (lines 9+10d+11)	**	5.00E+00
13. DRINKING WATER THREAT SCORE	100	0.60

* Maximum value applies to waste characteristics category.
 ** Maximum value not applicable.

PREscore 1.0 - PRESCORE.TCL File 12/23/91
 SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
 Precision Castparts Corporation - 11/06/92

PAGE: 2

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
14. Likelihood of Release (same as line 5)	550	550
Waste Characteristics		
15. Toxicity/Persistence/Bioaccumulation	*	5.00E+04
16. Hazardous Waste Quantity	*	10
17. Waste Characteristics	1000	18
Targets		
18. Food Chain Individual	50	2.00E+00
19. Population		
19a. Level I Concentrations	**	0.00E+00
19b. Level II Concentrations	**	0.00E+00
19c. Pot. Human Food Chain Contamination	**	6.10E-04
19d. Population (lines 19a+19b+19c)	**	6.10E-04
20. Targets (lines 18+19d)	**	2.00E+00
21. HUMAN FOOD CHAIN THREAT SCORE	100	0.24

* Maximum value applies to waste characteristics category.
 ** Maximum value not applicable.

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors ENVIRONMENTAL THREAT	Maximum Value	Value Assigned
Likelihood of Release		
22. Likelihood of Release (same as line 5)	550	550
Waste Characteristics		
23. Ecosystem Toxicity/Persistence/Bioacc.	*	5.00E+04
24. Hazardous Waste Quantity	*	100
25. Waste Characteristics	1000	32
Targets		
26. Sensitive Environments		
26a. Level I Concentrations	**	0.00E+00
26b. Level II Concentrations	**	7.50E+01
26c. Potential Contamination	**	1.25E-03
26d. Sensitive Environments (lines 26a+26b+26c)	**	7.50E+01
27. Targets (line 26d)	**	7.50E+01
28. ENVIRONMENTAL THREAT SCORE	60	16.00
29. WATERSHED SCORE	100	16.84
30. SW: OVERLAND/FLOOD COMPONENT SCORE (Sof)	100	16.84

* Maximum value applies to waste characteristics category.
 ** Maximum value not applicable.

PREscore 1.0 - PRESCORE.TCL File 12/23/91
SURFACE WATER PATHWAY SEGMENT SUMMARY
Precision Castparts Corporation - 11/06/92

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No.	Segment ID	Segment Type	Water Type	Start Point (mi)	End Point (mi)	Average Flow (cfs)
1	Johnson Creek	River	Fresh	0.00	2.00	54
2	Willamette River	River	Fresh	2.00	15.00	33310

Documentation for segment: Johnson Creek:

Reference: 1

Documentation for segment: Willamette River:

Reference: 1

OBSERVED RELEASE

No.	Sample ID	Sample Type	Distance (miles)	Level of Contamination		
				DW	HFC	Env
1	outfalls	Aqueous	0.000	Level I	Potential	Level II

Sample Hazardous No.	Substance	Concent.	Units
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1	Chromium	1.0E+01	ppb
1	Tetrachloroethene	1.5E+01	ppb
1	Trichloroethylene	2.0E+00	ppb

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Observed Release Factor	550
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Documentation for Observed Release, Sample outfalls:

The data should be varified with additional sampling to assure attribution to Precision.

Reference: 1

POTENTIAL TO RELEASE

Potential to Release by Overland Flow

Containment

No.	Source ID	HWQ Value	Containment Value
1	Drums	1.72E+00	10
2	Spills	1.20E+00	10

Containment Factor: 10

Documentation for Overland Flow Containment, Source Drums:

There is no diking surrounding the drums. They are located on asphalt.

Reference: 1

Documentation for Overland Flow Containment, Source Spills:

Reference: 1

Distance to Surface Water

Distance to Surface Water: 0.0 feet
Distance to Surface Water Factor: 25

Runoff

A. Drainage Area: 0.0 acres
B. 2-year, 24-hour Rainfall: 0.0 inches
C. Soil Group: A
Coarse-textured soils with high infiltration rates

Runoff Factor: 0

=====
Potential to Release by Overland Flow Factor: 250

Potential to Release by Flood

No. Source ID	HWQ Value	Flood Containment Value	Flood Frequency Value	Potential to Release by Flood

- N/A and/or data not specified				

=====

Potential to Release by Flood Factor: 0

Documentation for Flood Containment, Source Drums:

Reference: 1

Documentation for Flood Frequency, Source Drums:

Reference: 1

Documentation for Flood Containment, Source Spills:

Reference: 1

Documentation for Flood Frequency, Source Spills:

Reference: 1

Source: 1 Drums

Source Hazardous Waste Quantity Value: 1.72

Hazardous Substance	Toxicity Value	Persistence Value	Toxicity/ Persistence Value
-----	-----	-----	-----
Acetone	10	4.00E-01	4.00E+00
Tetrachloroethene	100	4.00E-01	4.00E+01
Trichloro-1,2,2-Trifluoroethane, 1	1	4.00E-01	4.00E-01
Trichloroethylene	10	4.00E-01	4.00E+00

Source: 2 Spills

Source Hazardous Waste Quantity Value: 1.20

Hazardous Substance	Toxicity Value	Persistence Value	Toxicity/ Persistence Value
Chromium	10000	1.00E+00	1.00E+04
Ethylene glycol	1	1.00E+00	1.00E+00
Tetrachloroethene	100	4.00E-01	4.00E+01
Trichloroethylene	10	4.00E-01	4.00E+00

Hazardous Substances Found in an Observed Release

Sample No.	Observed Release Hazardous Substance	Toxicity Value	Persistence Value	Toxicity/ Persistence Value
1	Chromium	10000	1.00E+00	1.00E+04
1	Tetrachloroethene	100	4.00E-01	4.00E+01
1	Trichloroethylene	10	4.00E-01	4.00E+00

Toxicity/Persistence Value from Source Hazardous Substances:	1.00E+04
Toxicity/Persistence Value from Observed Release Hazardous Substances:	1.00E+04
Toxicity/Persistence Factor:	1.00E+04
Sum of Source Hazardous Waste Quantity Values:	2.92E+00
Hazardous Waste Quantity Factor:	10
Waste Characteristics Factor Category:	18

Level I Concentrations

Sample ID: outfalls
Sample Medium: Aqueous
Location: 0.00 miles

Hazardous Substance	Hazardous Substance Concentration	DW MCL Benchmark Concentration	Units
Chromium	1.0E+01	5.0E+01	ppb
Tetrachloroethene	1.5E+01	0.0E+00	ppb
Trichloroethylene	2.0E+00	5.0E+00	ppb

Documentation for outfalls:

The data should be varified with additional sampling to assure attribution to Precision.

Reference: 1

Level II Concentrations

- N/A and/or data not specified

Most Distant Level I Sample

Sample ID: outfalls

Distance from the Probable Point of Entry: 0.00 miles

Documentation for outfalls:

The data should be varified with additional sampling to assure
attribution to Precision.

Reference: 1

Most Distant Level II Sample

- N/A and/or data not specified

Level I Concentrations

Intake	Distance Along the In-water Segment from the Probable Point of Entry (miles)	Population

- N/A and/or data not specified		

=====

Population Served by Level I Intakes: 0.0

Level I Population Factor: 0.00E+00

Level II Concentrations

Intake	Distance Along the In-water Segment from the Probable Point of Entry (miles)	Population
--------	--	------------

- N/A and/or data not specified

=====

Population Served by Level II Intakes: 0.0

Level II Population Factor: 0.00E+00

Potential Contamination

Intake ID	Average Annual Flow (cfs)	Population Served
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- N/A and/or data not specified

Type of Surface Water Body	Total Population	Dilution-Weighted Population
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- N/A and/or data not specified

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Dilution-Weighted Population Served by Potentially Contaminated Intakes:	0.0
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Potential Contamination Factor:	0.0
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Nearest Intake

Location of Nearest Drinking Water Intake: N.A.

Nearest Intake Factor: 0.00

Resources

Resource Use: YES

Resource Value: 5.00E+00

Documentation for Resources:

Surface water is used for irrigation.

Reference: 1

Source: 1 Drums

Source Hazardous Waste Quantity Value: 1.72

Hazardous Substance	Toxicity Value	Persistence Value	Bio- accum. Value	Toxicity/ Persistence/ Bioaccum. Value
Acetone	10	4.00E-01	5.00E-01	2.00E+00
Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
Trichloro-1,2,2-Trifluoroethan	1	4.00E-01	5.00E+01	2.00E+01
Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Source: 2 Spills

Source Hazardous Waste Quantity Value: 1.20

Hazardous Substance	Toxicity Value	Persistence Value	Bio- accum. Value	Toxicity/ Persistence/ Bioaccum. Value
-----	-----	-----	-----	-----
Chromium	10000	1.00E+00	5.00E+00	5.00E+04
Ethylene glycol	1	1.00E+00	5.00E-01	5.00E-01
Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Hazardous Substances Found in an Observed Release

Sample No.	Observed Release Hazardous Substance	Toxicity Value	Persistence Value	Bio-accum. Value	Toxicity/Persistence/Bioaccum. Value
1	Chromium	10000	1.00E+00	5.00E+00	5.00E+04
1	Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
1	Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Toxicity/Persistence/Bioaccumulation Value from Source Hazardous Substances:	5.00E+04
Toxicity/Persistence/Bioaccumulation Value from Observed Release Hazardous Substances:	5.00E+04
Toxicity/Persistence/Bioaccumulation Factor:	5.00E+04
Sum of Source Hazardous Waste Quantity Values:	2.92E+00
Hazardous Waste Quantity Factor:	10
Waste Characteristics Factor Category:	18

Level I Concentrations

- N/A and/or data not specified

Level II Concentrations

- N/A and/or data not specified

Most Distant Level I Sample

-
- N/A and/or data not specified

Most Distant Level II Sample

-
- N/A and/or data not specified

Level I Concentrations

Fishery	Annual Production (pounds)	Human Food Chain Population Value
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- N/A and/or data not specified
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Sum of Human Food Chain Population Values: 0.00E+00

Level I Concentrations Factor: 0.00E+00

Level II Concentrations

Fishery	Annual Production (pounds)	Human Food Chain Population Value
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- N/A and/or data not specified
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Sum of Human Food Chain Population Values: 0.00E+00

Level II Concentrations Factor: 0.00E+00

Potential Contamination

Fishery	Annual Production (pounds)	Type of Surface Water Body	Average Annual Flow (cfs)	Pop. Value (Pi)	Dilution Weight (Di)	Pi*Di
1 Johnson Creek	48.0	River	54	0.0	1.00E-01	3.00E-03
2 Willamette River	12000.0	River	33310	31.0	1.00E-04	3.10E-03

Sum of (Pi*Di): 6.10E-03

Potential Human Food Chain Contamination Factor: 6.10E-04

Documentation for Johnson Creek Fishery:

There were 16 steelhead caught it was assumed they weigh approximately 3 pounds apiece. In the past there were more fish caught. Currently there is an effort to get salmon back into the stream.

Reference: 1

Documentation for Willamette River Fishery:

Reference: 1

Food Chain Individual

Location of Nearest Fishery: Johnson Creek
 Distance from the Probable Point of Entry: 0.00 miles
 Type of Surface Water Body: River
 Dilution Weight: 0.1000000
 Level of Contamination: Potential

Food Chain Individual Factor: 2.00

Documentation for Johnson Creek:

Reference: 1

Source: 1 Drums

Source Hazardous Waste Quantity Value: 1.72

Hazardous Substance	Eco- toxicity Value	Persistence Value	Bio- accum. Value	Ecotoxicity/ Persistence/ Bioaccum. Value
Acetone	100	4.00E-01	5.00E-01	2.00E+01
Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
Trichloro-1,2,2-Trifluoroethan	0	4.00E-01	5.00E+01	0.00E+00
Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Source: 2 Spills

Source Hazardous Waste Quantity Value: 1.20

Hazardous Substance	Eco- toxicity Value	Persistence Value	Bio- accum. Value	Ecotoxicity/ Persistence/ Bioaccum. Value
-----	-----	-----	-----	-----
Chromium	10000	1.00E+00	5.00E+00	5.00E+04
Ethylene glycol	1000	1.00E+00	5.00E-01	5.00E+02
Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Hazardous Substances Found in an Observed Release

Sample No.	Observed Release Hazardous Substance	Eco- toxicity Value	Persistence Value	Bio- accum. Value	Ecotoxicity/ Persistence/ Bioaccum. Value
1	Chromium	10000	1.00E+00	5.00E+00	5.00E+04
1	Tetrachloroethene	100	4.00E-01	5.00E+01	2.00E+03
1	Trichloroethylene	10	4.00E-01	5.00E+01	2.00E+02

Ecotoxicity/Persistence/Bioaccumulation Value from Source Hazardous Substances:	5.00E+04
Ecotoxicity/Persistence/Bioaccumulation Value from Observed Release Hazardous Substances:	5.00E+04
Ecotoxicity/Persistence/Bioaccumulation Factor:	5.00E+04
Sum of Source Hazardous Waste Quantity Values:	2.92E+00
Hazardous Waste Quantity Factor:	100
Waste Characteristics Factor Category:	32

Level I Concentrations

- N/A and/or data not specified

Level II Concentrations

Sample ID: outfalls
Sample Medium: Aqueous
Location: 0.00 miles

Hazardous Substance	Hazardous Substance Concentration	AWQC Benchmarks Concentrations		Units
		FRESH	SALT	
Chromium	1.0E+01	0.0E+01	0.0E+01	ppb
Tetrachloroethene	1.5E+01	0.0E+01	0.0E+01	ppb
Trichloroethylene	2.0E+00	0.0E+01	0.0E+01	ppb

Documentation for outfalls:

The data should be varified with additional sampling to assure attribution to Precision.

Reference: 1

Most Distant Level I Sample

- N/A and/or data not specified

Most Distant Level II Sample

Sample ID: outfalls
Distance from the Probable Point of Entry: 0.00 miles

Documentation for outfalls:

The data should be varified with additional sampling to assure attribution to Precision.

Reference: 1

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SW PATHWAY: OVERLAND FLOW/FLOOD COMPONENT ENVIRONMENTAL THREAT TARGETS
Precision Castparts Corporation - 11/06/92

Level I Concentrations

Sensitive Environment	Distance from Probable Point of Entry to Sensitive Env. (miles)	Sensitive Environment Value
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- N/A and/or data not specified

Sum of Sensitive Environments Values: 0

Wetlands

Wetland	Distance from Probable Point of Entry to Wetland (miles)	Wetlands Frontage (miles)
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- N/A and/or data not specified

Total Wetlands Frontage: 0.00 Miles Total Wetlands Value: 0

Sum of Sensitive Environments Value + Wetlands Value: 0.00E+00

Level I Concentrations Factor: 0.00E+00

Level II Concentrations

Sensitive Environment	Distance from Probable Point of Entry to Sensitive Env. (miles)	Sensitive Environment Value
2 Salmon Migration	0.00	75
Sum of Sensitive Environments Values:		75

Wetlands

Wetland	Distance from Probable Point of Entry to Wetland (miles)	Wetlands Frontage (miles)
- N/A and/or data not specified		

Total Wetlands Frontage: 0.00 Miles Total Wetlands Value: 0

Sum of Sensitive Environments Value + Wetlands Value: 7.50E+01

Level II Concentrations Factor: 7.50E+01

Documentation for Sensitive Environment Salmon Migration:

Reference: 1

Potential Contamination

Sensitive Environments

Type of Surface Water Body	Sensitive Environment	Sensitive Environment Value

River	3 Salmon Migration	75

Wetlands

Type of Surface Water Body	Sensitive Environment	Wetlands Frontage	Wetlands Value

River	1 Wetlands	2.00	50

Documentation for Sensitive Environment Wetlands:

Reference: 1

Documentation for Sensitive Environment Salmon Migration:

Reference: 1

Type of Surface	Sum of Sens. Environment Values(Sj)	Sum of Wetland Frontage Values(Wj)	Dilution Weight (Dj)	Dj(Wj+Sj)
Water Body				
-----	-----	-----	-----	-----
Large River	75	50	1.00E-04	1.25E-02

Sum of Dj(Wj+Sj): 1.25E-02
 Sum of Dj(Wj+Sj)/10: 1.25E-03

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Potential Contamination Sensitive Environment Factor: 1.25E-03